

WHAT IS CLAIMED IS:

1. A device for testing a respirator product, comprising:

a fan;

a suction conduit connected to said fan;

a pressure conduit connected to said fan;

5 a line section to the respirator product

a reversing valve connecting said fan to one of said pressure conduit and said suction conduit in terms of flow to said respirator product via said to said line section switched in a predetermined time sequence and connecting the other of said pressure conduit and said suction conduit to the environment via an open position;

10 a throttling element located in the line section between said fan and said respirator product, said throttling element having a cross-sectional area that can be varied according to a preset manipulated variable.

2. A device in accordance with claim 1, wherein said reversing valve comprises a valve housing with a valve element swinging in a rotatably movable manner therein between two end positions, wherein said valve housing has two said valve inlets connected to said suction conduit and to said pressure conduit and a valve outlet leading to said respirator product and said valve
5 element has a flow channel that connects one of said valve inlets to said valve outlet as well as one of said valve inlets to a ventilation channel.

3. A device in accordance with claim 2, wherein the variable cross-sectional area of said throttling element is formed by the degree of overlap between the cross-sectional area of one of said valve inlets with the cross-sectional area of said flow channel wherein said valve element receives as the manipulated variable an angle of rotation position in relation to said valve housing.

4. A device in accordance with claim 1, wherein said valve element is actuated by a motor.

5. A device in accordance with claim 1, wherein the preset manipulated variable has a signal curve alternately rising proportionally or declining proportionally.

6. A process for testing a respirator product, the process comprising the steps of:
providing a fan with a suction conduit and with a pressure conduit;
connecting the fan to the respirator product via a reversing valve to provide flow
connection of one of the suction conduit and the pressure conduit with the respirator product in a
predetermined time sequence while said the other of said suction conduit and the pressure conduit
is open toward the environment;

variably throttling the cross-sectional area of a line section between the fan and the
respirator product corresponding to a manipulated variable in order to control the flow of gas to
said respirator product corresponding to a preset breathing pattern.

7. A process in accordance with claim 6, wherein an approximately sinusoidal pressure

curve is selected as the breathing pattern.

8. A respirator product testing system, comprising:

a fan;

a suction conduit connected to said fan;

a pressure conduit connected to said fan;

5 a line section to the respirator product

fluid control means for connecting said fan to one of said pressure conduit and said suction conduit in terms of flow to said respirator product via said to said line section switched in a predetermined time sequence and connecting the other of said pressure conduit and said suction conduit to the environment via an open position and variably throttling the cross-sectional area of
10 a line section between the fan and the respirator product corresponding to a manipulated variable in order to control the flow of gas to said respirator product corresponding to a preset breathing pattern.

9. A device in accordance with claim 8, wherein said fluid control means comprises a reversing valve with a valve housing with two valve inlets connected selectively to said suction conduit and to said pressure conduit and a valve outlet leading to said respirator product and with a valve element having a flow channel that connects one of said valve inlets to said valve outlet as
5 well as one of said valve inlets to a ventilation channel and said valve element flow channel is rotatably movable between said inlets.

10. A device in accordance with claim 9, wherein the variable throttling of the cross-sectional area of the line section occurs based on a degree of overlap between the cross-sectional area of one of said valve inlets with the cross-sectional area of said flow channel wherein said valve element receives as the manipulated variable an angle of rotation position in relation to said valve housing.

11. A device in accordance with claim 9, further comprising:

a control unit; and

a motor connected to said controller for actuating said valve element.

12. A device in accordance with claim 11, wherein the preset manipulated variable has a signal curve alternately rising proportionally or declining proportionally.